

September 1, 2005

Mr. Tom Porta, P.E.
Deputy Administrator
Nevada Division of Environmental Protection
901 S. Stewart Street
Suite 4001
Carson City, NV 89701

Dear Mr. Porta:

Thank you for submitting Nevada's 2004 Section 303(d) list of water quality limited water bodies. EPA carefully reviewed the State's initial submittal dated June 2, 2005, follow-up submittals dated July 9, 2005 and August 25, 2005, and supporting documentation and information. Based on this review, EPA has determined that Nevada's 2004 list of water quality limited segments (WQLSs) still requiring TMDLs partially meets the requirements of Section 303(d) of the Clean Water Act and EPA's implementing regulations. Nevada's water body listing decisions meet the listing requirements; however, Nevada's decisions not to list several waters and pollutants identified in the enclosed table do not meet the listing requirements.

EPA hereby partially approves and partially disapproves Nevada's 2004 Section 303(d) list. Specifically, EPA approves the State's decisions to list all the 85 water body segments and 205 water body-pollutant combinations identified in Table A-1 of the State's listing submission. EPA disapproves the State's decisions not to list 98 water body-pollutant combinations, most of which address segments listed by the State for other pollutants. These additional waters and pollutants are identified in Enclosure 1. EPA is further identifying these additional water bodies and pollutants with appropriate priority rankings for inclusion on the 2004 Section 303(d) list. EPA will open a public comment period on the additions to the list and will, if necessary, revise the list of added waters and pollutants after we consider any comments received. The statutory and regulatory requirements, and a summary of EPA's review of Nevada's compliance with each requirement, are described in the second enclosure.

It appears that none of the water bodies included on Nevada's list are within Indian Country as defined in 18 U.S.C. 1151. EPA's partial approval of Nevada's Section 303(d) list does not apply to any waters that are wholly or partly within Indian Country. EPA's decision to add waters and pollutants to Nevada's 2004 Section 303(d) list also does not apply to any waters in Indian Country. EPA, or eligible Indian Tribes, as appropriate, will retain responsibilities under Section 303(d) for those waters.

The State listings are based on an assessment methodology described in the State submittal. Priority rankings for all listed waters are established as required by Section 303(d) and its implementing regulations. Priorities are established based on eleven factors listed on p. 15 of the State submittal. Thirty-one water body-pollutant combinations are targeted for TMDL development in the next two years pursuant to the targeting requirement of 40 CFR 130.7. However, the water body-pollutant combinations targeted for TMDL development did not change significantly from the group targeted in Nevada's 2004 Section 303(d) list, and TMDLs have already been completed and approved for 80% of these targeted waters. As a result, few waters for which TMDLs have not yet been adopted are targeted for completion in the near future. Pursuant to 40 CFR 130.7(d)(1), EPA would like to discuss Nevada's TMDL targeting and scheduling commitments at our regularly scheduled end-of-year meeting scheduled for August 31, 2005. We encourage the State to establish a TMDL development schedule that provides for regular and timely completion of TMDLs for listed waters.

The public participation process sponsored by Nevada Division of Environmental Protection (NDEP) included solicitations of public comments through newspaper advertisements and preparation of a responsiveness summary explaining how the State considered public comment in the final listing decisions.

In the responsiveness summary, the State expresses a commitment to clarify its listing methodology to address several concerns raised by EPA regarding the State's decisions not to list several lakes, streams, and rivers for toxic and conventional pollutants. We look forward to working with the State as it revises its listing methodology to ensure that all credible data and information are assembled and evaluated, and all applicable standards are applied in the assessment process. Consistent with recently issued national assessment guidance for 2006, we also expect the State to develop an integrated assessment report in 2006 that addresses the reporting requirements of Clean Water Act Sections 303(d) and 305(b), and to enter the results of those assessments in EPA's electronic Assessment Data Base (ADB).

Like the 2002 Section 303(d) list submittal, the 2004 submittal includes a list of "Waterbodies Warranting Further Investigation" (Table C-1). We are concerned that few waters included in this group in 2002 were monitored between 2002 and 2004. Most of the waters included in this group in 2002 are retained in this group in the 2004 submittal. EPA would like to discuss with NDEP revisions to its State Monitoring Strategy and associated monitoring program to ensure that sufficient data are collected from waters targeted as needing further investigation to support full assessments and appropriate listing decisions in the future.

Thank you for your efforts to develop the 2004 Section 303(d) water body list and for being responsive to our clarification requests. We will continue to coordinate with you during the upcoming comment period. If you have questions on any of the above information, please call me at (415) 972-3572 or call David Smith at (415) 972-3416.

Sincerely,

/original signed by/

Alexis Strauss, Director
Water Division

Enclosures

Enclosure 1: Waters and Pollutants Added to Nevada's 2004 Section 303(d) List

Water Name	Reach	Pollutant
BLACK ROCK DESERT BASIN		
Bilk Creek Reservoir	entire reservoir	Dissolved oxygen pH
SNAKE RIVER BASIN		
E.F. Owyhee River	entire river	Cu (dis) Fe (tot) Zn (dis) phosphorus temperature
Burns Creek	SF Owyhee tributary	Total dissolved solids
Wildhorse Reservoir	entire reservoir	Cu (dis) Zn (dis)
W.F. Jarbridge River		Cu (dis) Zn (dis)
Shoshone Creek	Jackpot-Delaplain	Cu (dis) Zn (dis)
E.F. Jarbridge River		Zn (dis)
Mill Creek	at Patsville	Zn (dis)
Salmon Falls Creek	at Hwy. 93	Zn (dis)
HUMBOLDT RIVER BASIN		
Humboldt River	Woolsey to Rogers	Fe (tot)
	Osino to source	Zn (dis)
	Palisade to Osino	Zn (dis)
	Battle Mt to Palisade	Zn (dis)
	Hwy 789 to Battle Mt.	Zn (dis)
	Imlay to Comus	Zn (dis)
S. F. Humboldt River	below Dixie Ck	Pb (dis) Zn (dis)
N.F. Humboldt River	NFHR above Cole	Se (tot)
Sammy Creek		Se (tot) As
		Total dissolved solids
		Zn (dis)
Dry Creek		Se (tot)
		Total dissolved solids
Maggie Creek	Jack Ck- Humboldt	pH
Mary's River	entire river	Zn (dis)
		Dissolved oxygen
		temperature
Little Humboldt R.	entire river	Zn (dis)

S.F. Little Humboldt	Elko Co. line- NFLH	Fe (tot)
Willow Creek	below Buckhorn Mine	Hg

LAKE TAHOE BASIN

W.F. Incline Creek	Zn (dis)
Wood Creek	Zn (dis)
1st Creek	Zn (dis)
2nd Creek	Zn (dis)
3rd Creek	Zn (dis)
E.F. 3rd Creek	Zn (dis)
Incline Creek	Zn (dis)

TRUCKEE RIVER BASIN

Steamboat Creek	Zn (dis)
	at Rhodes Rd.
Whites Creek	Fe (tot)
	As
	Bo
	Zn (dis)
	Total dissolved solids
	Phosphorus
Thomas Creek	Zn (dis)
Franktown Creek	Zn (dis)
Galena Creek	Zn (dis)

CARSON RIVER BASIN

Carson River	Reservoir to Sink	Fe (tot)
		Zn (dis)
	Genoa	Fe (tot)
		Zn (dis)
	Mexican Gage to H. 395	Zn (dis)
	New Empire-Mexican	
	Ditch	Zn (dis)
	Dayton to New Empire	Zn (dis)
	Cradlebaugh-Genoa	Zn (dis)
	Weeks Br to Dayton Br	Zn (dis)
W.F. Carson River	at Stateline	Zn (dis)
	at Muller	Zn (dis)
		Fe (tot)
		Fecal coliform
		E coli
E.F. Carson River	Muller to Hwy 395	temperature
Lahontan Reservoir		Fe (tot)
		Zn (dis)
		Phosphorus
		Total suspended solids
		turbidity

Lower Clear Creek
Bryant Creek

Zn (dis)
Zn (dis)
Total suspended solids
turbidity

WALKER RIVER BASIN

Topaz Lake
W. F. Walker River at Wellington
Mason Valley WMA North Pond
Corey Creek source-Hawthorne

temperature
temperature
TDS
TDS
Phosphorus

COLORADO RIVER BASIN

Colorado River (L. Mohave-stateline)
Las Vegas Wash L. Mead-Telephone Line
Lake Mead at Willow Beach Pier
Virgin River stateline- Mesquite
Mesquite- L. Mead
Echo Canyon Res.
Muddy River at Overton

temperature
Se (tot)
Zn (tot)
Se (tot)
Se (tot)
Fe (tot)
pH
Bo

OTHER LAKES AND RESERVOIRS

Stillwater Point Res.
Eagle Valley Reservoir
Tracy Ponds large
small
Chimney Reservoir

Fe (tot)
Zn (dis)
pH
pH
Hg

Enclosure 2: Review of Nevada's 2004 Section 303(d) Water body List

Enclosure to letter from Alexis Strauss, EPA Region 9 to Tom Porta, NDEP

Date of Transmittal Letter From State: June 2, 2005

Date of Receipt by EPA: June 3, 2005

Date of Supplemental Transmittals From State: July 9, 2005, August 25, 2005

Purpose

The purpose of this review document is to describe the rationale for EPA's partial approval and partial disapproval of Nevada's 2004 Section 303(d) list of water quality limited waters requiring TMDLs. The following sections identify those key elements to be included in the list submittal based on the Clean Water Act and EPA regulations (see 40 CFR Section 130.7). EPA reviewed the methodology used by the State in developing the 303(d) list and the State's description of the data and information it considered. EPA's review of Nevada's 303(d) list is based on EPA's analysis of whether the State reasonably considered existing and readily available water quality-related data and information and reasonably identified waters required to be listed.

Statutory and Regulatory Background

Identification of WQLSs for Inclusion on Section 303(d) List

Section 303(d)(1) of the Act directs States to identify those waters within its jurisdiction for which effluent limitations required by Section 301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standard, and to establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters. The Section 303(d) listing requirement applies to waters impaired by point and/or nonpoint sources, pursuant to EPA's long-standing interpretation of Section 303(d).

EPA regulations provide that States do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology-based effluent limitations required by the Act, (2) more stringent effluent limitations required by federal, State or local authority, and (3) other pollution control requirements required by State, local, or federal authority. See 40 CFR 130.7(b)(1).

Consideration of Existing and Readily Available Water Quality-Related Data and Information

In developing Section 303(d) lists, States are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of existing and readily available data and information about the

following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the State's most recent Section 305(b) report; (2) waters for which dilution calculations or predictive modeling indicate nonattainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any Section 319 nonpoint assessment submitted to EPA. See 40 CFR 130.7(b)(5). In addition to these minimum categories, States are required to consider any other data and information that is existing and readily available. EPA's 1991 Guidance for Water Quality-Based Decisions describes categories of water quality-related data and information that may be existing and readily available. See Guidance for Water Quality-Based Decisions: The TMDL Process, EPA Office of Water, 1991, Appendix C ("EPA's 1991 Guidance"). While States are required to evaluate all existing and readily available water quality-related data and information, States may decide to rely or not rely on particular data or information in determining whether to list particular waters.

In addition to requiring States to assemble and evaluate all existing and readily available water quality-related data and information, EPA regulations at 40 CFR 130.7(b)(6) require States to include as part of their submissions to EPA documentation to support decisions to rely or not rely on particular data and information and decisions to list or not list waters. Such documentation needs to include, at a minimum, the following information: (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; and (3) any other reasonable information requested by the Region.

Priority Ranking

EPA regulations also codify and interpret the requirement in Section 303(d)(1)(A) of the Act that States establish a priority ranking for listed waters. The regulations at 40 CFR 130.7(b)(4) require States to prioritize waters on their Section 303(d) lists for TMDL development, and also to identify those WQLSs targeted for TMDL development in the next two years. In prioritizing and targeting waters, States must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. See Section 303(d)(1)(A). States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic, and aesthetic importance of particular waters, degree of public interest and support, and State or national policies and priorities. See 57 FR 33040, 33045 (July 24, 1992), and EPA's 1991 Guidance. EPA does not take action to approve or disapprove state priority rankings.

Analysis of Nevada's Submission

Identification of Waters and Consideration of Existing and Readily Available Water Quality-Related Data and Information.

EPA has reviewed the State's submission, and has concluded that the State developed its Section 303(d) list in partial compliance with Section 303(d) of the Act and 40 CFR 130.7. Because Nevada's submission does not include all waters that meet Section 303(d) listing requirements, EPA is partially approving and partially disapproving Nevada's list submission and adding the additional waters and pollutants that meet the listing requirements to the final 2004 list. EPA's review is based on its analysis of whether the State reasonably considered existing and readily available water quality-related data and information and reasonably identified waters required to be listed.

Nevada conducted a basic assessment of water quality conditions based principally on a review of data from the State's ambient water quality monitoring program and application of the assessment methodology first applied for the 2002 Section 303(d) listing process. The methodology is described in detail in the listing submission. The State's general approach was to assess waters for which sufficient data and information were available to do so, and to continue listing waters contained on the 2002 Section 303(d) list absent new data and information to support a careful assessment of their current condition. This approach is generally consistent with federal listing requirements. EPA supports the State's approach of retaining on the list all previously listed waters until new data and information are available to support a change in their assessment.

The State assembled and considered existing and readily available data and information sources, including each of the sources identified in 40 CFR 130.7(b)(5) except as discussed below (Submittal, pp. 3-4). The State solicited data and information from the public prior to developing its listing recommendations and provided extensive opportunities for the public to comment on its listing recommendations. The State specifically considered the relationship between assessments in the 2004 Section 305(b) report and the Section 303(d) list, and provided a reasonable explanation for any differences in assessment findings in those two reports. (Submittal, pp. 3-4). The State did not revisit the Section 319 Assessment Report as part of the 2004 Section 303(d) list analysis. This approach was reasonable because the State's assessment approach involved incremental changes to the 1998 and 2002 Section 303(d) list based on more recently available data and information where available. As described in EPA's approval of the 1998 Section 303(d) lists, the results of Nevada's most recent Section 319 assessment were considered in the development of that list. The Section 319 assessment has not been updated since 1998, and the State retained waters listed in 1998 on the 2004 Section 303(d) list absent more recent data and information. Therefore, the State considered the results of the now-dated Section 319 assessment in its 2004 Section 303(d) listing assessment.

The listing methodology employed by Nevada for 2004 describes a set of decision criteria that were flexibly applied (Submittal, pp. 2-16, 19-25). In general, waters were listed in cases where at least 10 samples were available and more than 10% of available samples exceeded the applicable water quality standards during the past 5 years. This assessment approach is appropriate for water quality standards that do not express a particular For some waters that did not meet the 10 sample/10% exceedence test, State also applied a weight of evidence approach in examining individual waters and pollutants. The State considered the type of pollutant involved, the water body and watershed characteristics, the magnitude and distribution of exceedences, and other information about the water body including land use characteristics. These assessments were summarized in the Submittal and, in some cases, the response to comments. Based on its weight of evidence approach, the State listed several waters that did not meet the 10 sample/10% exceedence assessment criterion. For example, the State also listed waters for which a fishing, drinking, or swimming advisory was in effect during the prior 5 years, and several waters that did not meet the 10 sample minimum but still had persuasive evidence of standards exceedences. However, as discussed below, the State did not list several other waters and pollutants in cases where the available data and information were sufficient to support a conclusion that water quality standards were violated and that the waters and pollutants should be included on the list.

EPA has reviewed Nevada's description of the data and information it considered, its methodology for identifying waters, the State's responsiveness summary, and the supplemental data and information submittals. With one exception discussed below, EPA concludes that the State properly assembled and evaluated all existing and readily available data and information, including data and information relating to the categories of waters specified in 40 CFR 130.7(b)(5). Specifically, the State apparently did not consider data from EPA's National Lakes fish study collected between 2000-2003 and did not provide a rationale for not considering this readily available data in its assessment. EPA determined that the fish tissue data from Chimney Reservoir supports a conclusion that this water is not meeting water quality standards for mercury.

EPA concludes that the State's decisions to list the waters identified in Table A-1 of its listing submittal are consistent with federal listing requirements. However, EPA concludes that the State's decision not to list several waters and pollutants are not consistent with federal listing requirements. As discussed in detail below, the available data and information are sufficient to support a conclusion that these waters are water quality limited and need to be listed pursuant to Section 303(d).

Although EPA reviewed Nevada's listing methodology as part of our review of the listing submission, EPA's partial approval of the State's listing decisions should not be construed as concurrence with or approval of the listing methodology. EPA does not take action on the listing methodology itself under 40 CFR 130.7. Rather, EPA considers the State methodology as part

of its review, to the extent that the methodology is consistent with the State's water quality standards and sound science. EPA's decision to partially approve and partially disapprove Nevada's listing decisions is based on EPA's review of the data and information submitted and compiled concerning individual waters and the State's evaluations of those waters. Although EPA was concerned about some aspects of the State's listing methodology, those concerns did not impact our final listing decision unless the State actually did not list specific waters or pollutants that meet federal listing requirements.

For example, in its comments on the Nevada draft list, EPA expressed concern about the State's proposal to apply a 10% exceedence rule for acute water quality standards for toxic pollutants because that approach is apparently inconsistent with State water quality standards and EPA's 1997 and 2002 assessment guidance documents (see EPA letter dated February 25, 2005). These federal guidance documents indicate that waters should generally be considered water quality limited if they exceed acute water quality standards for toxic pollutants more than once in any three year period. In its responsiveness summary submitted with the final list, the State responded to EPA's concern by explaining that no water assessed in 2004 exceeded standards for acute toxic pollutants more than once in three years but in less than 10% of the available samples (see State response to EPA comments, October 2004, p. 3). Therefore, the State's specific listing decisions are consistent with both the State listing methodology and federal assessment guidance for acute toxic pollutants, and it was unnecessary for EPA to reconcile potential inconsistencies in State and federal assessment approaches with respect to acute toxic pollutant standards.

Nonpoint Source Impaired Waters

The State properly listed waters with nonpoint sources causing or expected to cause impairment, consistent with Section 303(d) and EPA guidance. Section 303(d) lists are to include all WQLSs still needing TMDLs, regardless of whether the source of the impairment is a point and/or nonpoint source. EPA's long-standing interpretation is that Section 303(d) applies to waters impacted by point and/or nonpoint sources. In *Pronsolino v. Marcus*, the District Court for the Northern District of California held that section 303(d) of the Clean Water Act (CWA) authorizes EPA to identify and establish total maximum daily loads (TMDLs) for waters impaired by nonpoint sources. *Pronsolino et al. v. Marcus et al.*, 91 F.Supp.2d 1337, 1347 (N.D.Ca. 2000), *aff'd*, *Pronsolino v. Nastri*, 291 F.3d 1123 (9th Cir. 2004). See also EPA's 1991 Guidance and National Clarifying Guidance for 1998 Section 303(d) Lists, Aug. 27, 1997.

Basis for Decision to Add Waters to Nevada's 2004 Section 303(d) List

Following its review of Nevada's draft list, EPA submitted comments on February 25, 2005 and March 11, 2005 that raised concerns about the State's decision not to list several classes of waters:

- waters that exceeded chronic standards for toxic pollutants,
- waters that exceeded zinc standards,
- waters that exceed standards but for which data sets did not meet the State's minimum sample size criteria, and
- lakes and reservoirs based on available grab sample data.

The State's final submission included a responsiveness summary that briefly addressed these concerns but did not include specific technical rationales to support decisions not to list these waters or supporting data requested by EPA.

Based on our initial review of the final list submission, EPA identified several waters which appeared to exceed currently applicable water quality standards. EPA discussed the potential inclusion of these waters on the list with NDEP staff on several occasions in July-August, 2005. In response to EPA's request, the State provided additional data and information on July 9, 2005 and August 25, 2005 concerning waters on the State's "List of Waterbodies Warranting Further Investigation."

EPA thoroughly reviewed the State submittals and has concluded that several groups of waters and pollutants meet federal listing requirements and must be included on the 2004 Section 303(d) list. The waters and pollutants EPA is identifying for inclusion on Nevada's list fit into four main categories:

- waters that violate chronic standards for toxic pollutants,
- waters that violate both chronic and acute standards for toxic pollutants,
- waters that violate zinc standards (this category is discussed separately as the State raised concerns about the reliability of available zinc data),
- waters that violate standards for conventional pollutants, and
- lakes and reservoirs that violate standards for conventional or toxic pollutants (this category is discussed separately as the State expressed concerns about assessing lakes and reservoirs based on available grab sample data).

The following sections discuss the basis for including these waters on the Section 303(d) list. Table 1 at the end of this staff report contains water body and pollutant-specific information about the basis for EPA's decision to include these waters and pollutants on Nevada's Section 303(d) list.

EPA evaluated available data and information in comparison with Nevada water quality standards identified in Nevada Administrative Code Section 445A, which identify designated uses, numeric criteria, narrative criteria, and antidegradation policy provisions applicable to Nevada's waters. In cases where waters evaluated are specifically named and associated with numeric water quality standards in the NAC, EPA applied those standards in conducting the evaluation. Pursuant to Nevada's tributary rule at NAC 445A.145, in cases where waters

evaluated are not specifically named, EPA applied the numeric water quality standards applicable to the downstream waters to which the evaluated waters are tributary. EPA also considered the narrative water quality standards applicable to all waters in conducting assessments; however, each of the additional listings identified by EPA is based on observed violations of applicable numeric water quality standards.

Decisions not to list waters due to violations of chronic standards for toxic pollutants

In general, Nevada did not list waters that appeared to exceed chronic standards for toxic pollutants. The list submission and followup correspondence do not provide a sufficient rationale for the decision not to list these waters. The State's methodology suggests as a rationale for not using grab samples to assess chronic standards that grab samples may not be representative of conditions during a 4 day period (State submittal, p. 8). This argument is speculative and unsupported by actual analysis of available data sets. The responsiveness summary offers no specific rationale for concluding that any individual data set is unrepresentative of multi-day conditions, suggesting instead that a revised assessment procedure should be developed to support future listing decisions (see State submittal, p. G-4). Nevada's listing methodology provides for quality assurance review and potential exclusion of spurious data. Moreover, the methodology provides for the exclusion of data collected during very high and low flow situations. It is unreasonable to assume that all data collected pursuant to valid QA/QC protocols might not be valid for purposes of comparison with chronic standards, and to therefore categorically exclude from consideration the possibility that the available data indicate the presence of chronic standards violations. Moreover, we can find no provision of Nevada water quality standards that provides an exception to the application of chronic standards on this basis. It would be invalid to simply ignore the issue with respect to the 2004 list and instead defer consideration of chronic standards until a future listing cycle, as the State suggests. Therefore, EPA concludes that the State's decision not to list waters due to chronic standards exceedences based on its concerns about grab and composite sample results is inconsistent with federal listing requirements. However, we support the State's commitment to revise the State assessment methodology to provide for assessment of chronic standards.

EPA's 1997 and 2002 assessment guidance documents generally recommend that waters should be listed if they exceed chronic standards for toxic pollutant effects on aquatic life more than once in any three year period. We understand the State's concern about whether the available data would be representative for purposes of assessing violations of chronic standards. However, we believe federal regulations at 40 CFR 130.7 and the structure of Nevada's water quality standards establish that chronic standards will be applied in the listing assessment process. The presumption that chronic standards are applicable in the listing assessment process is also consistent with EPA's 1997, 2002, and 2004 assessment guidance. Federal regulations at 40 CFR 130.7 establish a broad mandate to consider all existing and readily available data and information in assessing potential standards violations. The 1997 305(b) Guidance suggests that for toxicants, waters are only partially supporting their designated aquatic life uses if "acute or chronic criteria (are) exceeded more than once within a 3 year period... ." (emphasis added, EPA, 1997, p. 3-18). Waters that are only partially supporting their uses generally meet the definition of water quality limited segments for purposes of 303(d) listing (see 40 CFR 130.7(b)(5)(I)). EPA's 2002 CALM Guidance repeats this interpretation for purposes of 303(d) listing (EPA, 2002, p. 4-16). The 1997 guidance also states that this guideline "assumes at least 10 samples over a 3 year period. If fewer than 10 samples are available, the State should use discretion and consider other factors such as the number of pollutants having a single violation and the magnitude of the exceedences. Also, EPA believes that 4 day composites are not an absolute requirement for evaluating whether chronic criteria are being met." EPA, 1997, p 3-18. We find no basis in Nevada standards for excluding chronic standards from application based on the representativeness concern expressed in the listing submittal.

In its review of toxic pollutant data for Nevada water bodies, EPA identified several waters not listed by Nevada that violate chronic toxic pollutant standards. EPA applied a weight of evidence approach to evaluate whether available data and information showed that a water quality standard was not being implemented. Where data and information for a particular water body-pollutant combination was available, EPA's weight of evidence approach generally included evaluation of the following factors:

1. Number of samples above the water quality standard. In general, if at least two independent samples (i.e., collected on different days) were above the chronic standard, this was considered sufficient evidence that a water quality standard was not being implemented, subject to further analysis.
2. The magnitude of exceedences. In general, if observed exceedences were significantly above the standard (i.e., at least 25% higher than the standard), this was considered corroborating evidence that a water quality standard was not being implemented.
3. The number of samples compared to the number of violations. In general, if the exceedence frequency was greater than 10 % and there were at least 10 samples, this was considered further corroborating evidence.

4. Information about watershed land uses. In general, if there was available information that likely sources of toxic pollutant discharges (e.g. unpermitted mining operations) are present in the watershed, this was considered corroborating evidence of the exceedences.
5. Other listings for the water body. In general, if the water is listed for other toxic pollutants, this was considered as further corroborating evidence that the subject water quality standard was not being implemented.

EPA concludes that a medium priority ranking is appropriate for each of the added waters listed for toxic pollutants based on the considerations that (1) additional monitoring and biological assessment are urgently needed to better assess toxic pollutant effects in these waters, (2) the State has recently completed several TMDLs for toxic metals and has demonstrated the capacity to do develop such TMDLs in a reasonable period, (3) toxic pollutants have the capacity to cause substantial adverse impacts on the State's waters and warrant prompt attention, and (4) the State has established high and medium priority rankings for relatively few (27%) of its listed waters.

Decisions not to list waters due to violations of acute standards for toxic pollutants

In contrast to its approach to chronic standards for toxic pollutants, Nevada assessed and listed several waters due to violations of acute water quality standards for toxic pollutants. However, during our evaluation of Nevada's submittal, EPA identified several additional waters that exceed acute water quality standards for toxic pollutants. Based on discussions with Nevada staff, it appears State staff decided not to list several waters they regarded as "close calls" based on their evaluation of available data. EPA applied a weight of evidence approach to evaluate whether available data and information show that water quality standards are not being implemented. Where data and information for a particular water body-pollutant combination was available, EPA's weight of evidence approach generally included evaluation of the following factors:

1. Number of samples above the water quality standard. In general, if at least two independent samples (i.e., collected on different days) during the past three years were above the acute standard, this was considered sufficient evidence that a standard was not being implemented, subject to further analysis. A similar assessment criterion is also identified in Nevada's listing methodology (p. 8).
2. The magnitude of violations. In general, if observed violations were significantly above the standard (i.e., at least 25% higher than the standard), this was considered corroborating evidence.

EPA concludes that a medium priority ranking is appropriate for each of the added waters listed for toxic pollutants based on the considerations that (1) additional monitoring and biological assessment are urgently needed to better assess toxic pollutant effects in these waters, (2) the State has recently completed several TMDLs for toxic metals and has demonstrated the capacity to do develop such TMDLs in a reasonable period, (3) toxic pollutants have the capacity

to cause substantial adverse impacts on the State's waters and warrant prompt attention, and (4) the State has established high and medium priority rankings for relatively few (27%) of its listed waters.

Assessment of Zinc Data

Nevada declined to apply available zinc data for the 2004 listing assessment based on the assertion that zinc data were unreliable for assessment purposes. The only rationale provided for excluding the zinc data was the statement that in many cases, measured dissolved zinc concentrations were found to be higher than measured total zinc concentrations, suggesting sample contamination (State response, pp. 23-24). In our comment letter of February 25, 2005, EPA asked NDEP to provide site specific descriptions of the basis for excluding zinc data from consideration along with the suspect zinc data and available quality assurance and quality control information. The State provided none of the requested data and QA/QC information in its final submittal, and provided no further documentation to support its concerns about zinc data quality.

EPA believes that information concerning potential data quality concerns should be carefully considered in determining the weight to be accorded when evaluating available data results (see EPA's 1997 guidance, p. 3-18). However, in the absence of specific documentation to support the State's concern about the reliability of zinc data, EPA believes it is reasonable to use available zinc data with discretion in the assessment of whether Nevada waters attain applicable water quality standards. We note several years of zinc data were available for many Nevada waters. Almost all this data was collected by State staff and analyzed in the State laboratory in accordance with a State and EPA-approved quality assurance plan. EPA applied discretion in evaluating available zinc data by applying a modified weight of evidence approach similar to that applied to evaluate potential violations of chronic and acute standards as discussed above. We generally concluded that if at least 3 independent samples indicated violations of applicable zinc standards, this was sufficient evidence that the standard was not being implemented. Based on our evaluation of Nevada's submittal, EPA identified several additional waters that exceed water quality standards for dissolved zinc.

EPA concludes that a medium priority ranking is appropriate for each of the waters listed for zinc based on the considerations that (1) additional monitoring and biological assessment are urgently needed to better assess toxic pollutant effects in these waters, (2) the State has recently completed several TMDLs for toxic metals including zinc and has demonstrated the capacity to do develop such TMDLs in a reasonable period, (3) toxic pollutants have the capacity to cause substantial adverse impacts on the State's waters and warrant prompt attention, and (4) the State has established high and medium priority rankings for relatively few (27%) of its listed waters.

We support the State's commitment, expressed in the responsiveness summary, to thoroughly investigate and remedy the suspected quality assurance problem with State-collected

zinc data.

Decisions not to list waters due to violations of standards for conventional pollutants

Nevada's listing methodology generally provides for listing of waters for conventional pollutants in cases where the applicable water quality standard was exceeded in more than 10% of samples, based on a minimum sample size of ten. In EPA's comments on the draft list, EPA expressed concern about both aspects of this assessment method. First, EPA noted that the provision to require more than 10% of available samples to exceed a standard would be inconsistent with State standards expressed as single values not to be exceeded, as well as EPA assessment guidance (EPA, 2003, pp. 30-31). For example, Nevada water quality standards for temperature are expressed as maximum allowable values in different seasons. In contrast to water quality standards provisions in effect in some other states, Nevada standards provide no basis a less than strict reading of these not-to-be-exceeded water quality standards. Second, EPA noted that application of a minimum sample size requirement is inconsistent with federal regulations (see 40 CFR 130.7(b)(5)) and state water quality standards (except for calculating monthly geometric mean bacteria levels) and should not, therefore, be applied as absolute exclusionary rules (EPA 2003, p. 25). Use of minimum sample sizes may also lead to inconsistent assessment decisions. For example, application of the State's methodology would lead to a logically inconsistent decision to list a water where 8 out of 11 samples exceed a pH standard and a decision not to list the same water if only 8 out of 9 samples exceed the pH standard.

EPA reviewed data summaries provided by NDEP and identified several situations in which conventional pollutants with single value standards were exceeded multiple times (in all cases more than 10% of the time). We also identified several situations in which fewer than ten samples were available yet sufficient excursions were measured for individual pollutants to support a clear finding of water quality standards violation. EPA is including these waters on Nevada's 2004 list.

EPA concludes that a low priority ranking is appropriate for each of the added waters listed for conventional pollutants based on the consideration that the State is reevaluating its water quality standards for several conventional pollutants, which could result in changes in water quality impairment findings for these waters if water quality standards change in the near future.

Assessment of lakes and reservoirs

The State declined to consider listing lakes and reservoirs based on grab sample data

based on a concern that grab sample results may not be representative of conditions throughout a lake or reservoir (p. 14). EPA expressed concern in our comment letter dated February 25, 2005 that available data should be used to assess lakes and reservoirs, and that Nevada water quality standards provide no basis for asserting that water quality standards excursions in one part of a lake or reservoir do not constitute violations of the applicable water quality standards. In its responsiveness summary, NDEP provided no technical rationale to support a decision not to assess lakes and reservoirs based on available grab sample data. In assessing lakes and reservoirs based on data summaries provided by NDEP, EPA identified several waters in which toxic or conventional pollutant standards were exceeded based on available grab sample data. As EPA has no information at this time that would support a technically sound segmentation of lakes and reservoirs nor indicate a need to do so to properly apply water quality standards, we are identifying entire lakes and reservoirs on the list in cases where available data indicate violations at monitoring sites. We invite comment as to whether the listings should cover entire lakes and reservoirs or smaller segments of lakes and reservoirs located immediately adjacent to the sampling locations. Consistent with the priority rankings for added waters discussed in the preceding sections, EPA has concluded that medium priority rankings are warranted for added lakes and reservoirs listed for toxic pollutants and low priority rankings are warranted for added lakes and reservoirs listed for conventional pollutants.

Priority Ranking and Targeting

EPA also reviewed the State's priority ranking of listed waters for TMDL development. Priority rankings for all listed waters are established as required by Section 303(d) and its implementing regulations. Priorities are established based on eleven factors listed on p. 15 of the State submittal. Thirty-one water body-pollutant combinations are targeted for TMDL development in the next two years pursuant to the targeting requirement of 40 CFR 130.7. However, the water body-pollutant combinations targeted for TMDL development did not change significantly from the group targeted in Nevada's 2002 Section 303(d) list, and TMDLs have already been completed and approved for 80% of these targeted waters. As a result, few waters for which TMDLs have not yet been adopted are targeted for completion in the near future. Pursuant to 40 CFR 130.7(d)(1), EPA would like to discuss Nevada's TMDL targeting and scheduling commitments with the State and reach agreement with the State on a TMDL development schedule that provides for regular and timely completion of TMDLs for listed waters.

Administrative Record Supporting This Action

In support of this decision to approve the State's listing decisions, EPA carefully reviewed the materials submitted by the State with its 303(d) listing decision, including a large

number of data summaries that reported data for several hundred waters for toxic and conventional pollutants. We also reviewed data collected by EPA for Nevada lakes and reservoirs that the State did not consider (Kozelka, 2005). The administrative record supporting EPA's decision is comprised of the materials submitted by the State, EPA lake and reservoir data, copies of Section 303(d), associated federal regulations, and EPA guidance concerning preparation of Section 303(d) lists, and this decision letter and supporting report. EPA determined that the materials provided by the State with its submittal provided insufficient documentation to support our analysis of the State's listing decisions as the State did not consider EPA data that were existing and readily available. We are aware that the State compiled and considered additional materials (e.g., raw data and water quality analysis reports) as part of its list development process that were not included in the materials submitted to EPA. EPA did not consider these additional materials as part of its review of the listing submission. It was unnecessary for EPA to consider all of the materials considered by the State in order to determine that, based on the materials submitted to EPA by the State, the State partially complied with the applicable federal listing requirements. Moreover, federal regulations do not require the State to submit all data and information considered as part of the listing submission.

References

The following list of documents was used directly or indirectly as a basis for EPA's review of the State's 303(d) water body list. This list is not meant to be an exhaustive list of all records reviewed, but to identify the primary documents the Region relied upon in making its decisions to partially approve and partially disapprove the State's list.

Nevada's 2005 List Submittal with attachments, June 2, 2005

Nevada's supplemental data submittal, July 9, 2005.

Nevada's supplemental data submittal, August 25, 2005

Letter from EPA to NDEP, February 25, 2005

Letter from EPA to NDEP, March 11, 2005

Nevada Water Quality Standards, N.A.C. 445A-119 et seq.

Nevada 305(b) Report, 2004

December 28, 1978 Federal Register Notice, *Total Maximum Daily Loads Under Clean Water Act*, finalizing EPA's identification of pollutants suitable for TMDL calculations, 43 Fed. Reg. 60662.

January 11, 1985 Federal Register Notice, *40 CFR Parts 35 and 130, Water Quality Planning and Management: Final Rule*, 50 Fed. Reg. 1774

April 1991, "Guidance for Water Quality-Based Decisions: The TMDL Process," EPA 440/4-91-001.

40 CFR Part 130 Water Quality Planning and Management

August 27, 1997 memorandum from Robert H. Wayland III, Director, Office Wetlands, Oceans, and Watershed, Office of Water, EPA Headquarters, to Water Division Directors, Regions I - X, and Directors, Great Water Body Programs, and Water Quality Branch chiefs, Regions I - X, regarding "National Clarifying Guidance For 1998 State and Territory Section 303(d) Listing Decisions."

September, 1997 guidance from Office of Water, Headquarters, US EPA regarding Guidelines for Preparation of the Comprehensive State Water Quality Assessments (305(b) Reports) and Electronic Updates: Supplement, EPA-841-B-97-002B

November 19, 2001 memorandum from EPA Office of Water regarding 2004 Integrated Water Quality Monitoring and Assessment Report Guidance.

Consolidated Assessment and Listing Methodology, EPA Office of Water, July 2002.

Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act, EPA Office of Water, July 21, 2003.

Kozelka, Peter. National Lakes Fish Tissue Monitoring Results, Chimney Reservoir, NV, 2005.